

What is claimed is:

1. A method for identifying a subject as a candidate for a particular clinical  
5 course of therapy to treat a vascular disease or disorder comprising the steps of:
  - a) determining the identity of the nucleotide present at nucleotide  
position 107078 of SEQ ID NO:1, the nucleotide present at nucleotide position 55386  
of SEQ ID NO:3, the nucleotide present at nucleotide position 75672 of SEQ ID  
NO:5, and the nucleotide present at nucleotide position 3949 of SEQ ID NO:13, or  
10 the complements thereof; and
  - b) identifying the subject as a candidate for a particular clinical course of  
therapy based on the identity of the nucleotide present at nucleotide position 107078  
of SEQ ID NO:1, the nucleotide present at nucleotide position 55386 of SEQ ID  
NO:3, the nucleotide present at nucleotide position 75672 of SEQ ID NO:5, and the  
15 nucleotide present at nucleotide position 3949 of SEQ ID NO:13, or the complements  
thereof.
2. The method of claim 1, wherein determining the identity of said nucleotides is  
by obtaining a nucleic acid sample from the subject.  
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3. A method for identifying a subject as a candidate for a particular clinical course of  
therapy to treat a vascular disease or disorder comprising the steps of:
  - a) determining the identity of the nucleotide present at nucleotide  
position 107078 of SEQ ID NO:1, nucleotide position 10777 of SEQ ID NO:7,  
25 nucleotide position 76666 of SEQ ID NO:9, nucleotide position 55386 of SEQ ID  
NO:3, nucleotide position 53502 of SEQ ID NO:11, and nucleotide position 3949 of  
SEQ ID NO:13, or the complements thereof; and
  - b) identifying the subject as a candidate for a particular clinical course of  
therapy based on the identity of the nucleotide present at nucleotide position 107078

of SEQ ID NO:1, nucleotide position 10777 of SEQ ID NO:7, nucleotide position 76666 of SEQ ID NO:9, nucleotide position 55386 of SEQ ID NO:3, nucleotide position 53502 of SEQ ID NO:11, and nucleotide position 3949 of SEQ ID NO:13, or the complements thereof.

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4. The method of claim 3, wherein determining the identity of said nucleotides is by obtaining a nucleic acid sample from the subject.

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5. The method of claim 2 or 4, wherein the clinical course of therapy is use of a medical device.

6. The method of claim 2 or 4, wherein the clinical course of therapy use of a surgical procedure.

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7. The method of claim 5, wherein said medical device is selected from the group consisting of: a defibrillator, a stent, a device used in coronary revascularization, a pacemaker, and any combination thereof.

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8. The method of claim 5, wherein said medical device is used in combination with a modulator of ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 gene expression or ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 polypeptide activity.

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9. The method of claim 6, wherein said surgical procedure is selected from the group consisting of: percutaneous transluminal coronary angioplasty, laser angioplasty, implantation of a stent, coronary bypass grafting, implantation of a defibrillator, implantation of a pacemaker, and any combination thereof.

10. A method for identifying a subject who is a candidate for further diagnostic evaluation for a vascular disease or disorder comprising the steps of:

- a) determining the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, the nucleotide present at nucleotide position 55386 of SEQ ID NO:3, the nucleotide present at nucleotide position 75672 of SEQ ID NO:5, and the nucleotide present at nucleotide position 3949 of SEQ ID NO:13, or the complements thereof; and
- b) identifying the subject as a subject who is a candidate for further diagnostic evaluation for a vascular disease or disorder based on the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, the nucleotide present at nucleotide position 55386 of SEQ ID NO:3, the nucleotide present at nucleotide position 75672 of SEQ ID NO:5, and the nucleotide present at nucleotide position 3949 of SEQ ID NO:13, or the complements thereof.

11. The method of claim 10, wherein determining the identity of said nucleotides is by obtaining a nucleic acid sample from the subject.

12. A method for identifying a subject who is a candidate for further diagnostic evaluation for a vascular disease or disorder comprising the steps of:

- a) determining the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, nucleotide position 10777 of SEQ ID NO:7, nucleotide position 76666 of SEQ ID NO:9, nucleotide position 55386 of SEQ ID NO:3, nucleotide position 53502 of SEQ ID NO:11, and nucleotide position 3949 of SEQ ID NO:13, or the complements thereof; and
- b) identifying the subject as a candidate for further diagnostic evaluation for a vascular disease or disorder based on the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, nucleotide position 10777 of SEQ ID NO:7, nucleotide position 76666 of SEQ ID NO:9, nucleotide position 55386 of SEQ ID NO:3, nucleotide position 53502 of SEQ ID NO:11, and nucleotide position 3949

of SEQ ID NO:13, or the complements thereof.

13. The method of claim 12, wherein determining the identity of said nucleotides is by obtaining a nucleic acid sample from the subject.

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14. The method of claim 10 or 12, wherein said further diagnostic evaluation consists of use of one or more vascular imaging devices.

15. The method of claim 14, wherein said vascular imaging device is selected from the group consisting of: angiography, cardiac ultrasound, coronary angiogram, magnetic resonance imagery, nuclear imaging, CT scan, myocardial perfusion imagery, electrocardiogram, and any combination thereof.

16. The method of claim 10 or 12, wherein further diagnostic evaluation is selected from the group consisting of: genetic analysis, familial health history analysis, lifestyle analysis, exercise stress tests, and any combination thereof.

17. A method for selecting a clinical course of therapy to treat a subject who is at risk for developing a vascular disease or disorder comprising the steps of:

20 a) determining the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, the nucleotide present at nucleotide position 55386 of SEQ ID NO:3, the nucleotide present at nucleotide position 75672 of SEQ ID NO:5, and the nucleotide present at nucleotide position 3949 of SEQ ID NO:13, or the complements thereof; and

25 b) selecting a clinical course of therapy for treatment of a subject who is at risk for developing a vascular disease or disorder based on the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, the nucleotide present at nucleotide position 55386 of SEQ ID NO:3, the nucleotide present at nucleotide position 75672 of SEQ ID NO:5, and the nucleotide present at nucleotide

position 3949 of SEQ ID NO:13, or the complements thereof.

18. The method of claim 17, wherein determining the identity of said nucleotides is by obtaining a nucleic acid sample from the subject.

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19. A method for selecting a clinical course of therapy to treat a subject who is at risk for developing a vascular disease or disorder comprising the steps of:

10 a) determining the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, nucleotide position 10777 of SEQ ID NO:7, nucleotide position 76666 of SEQ ID NO:9, nucleotide position 55386 of SEQ ID NO:3, nucleotide position 53502 of SEQ ID NO:11, and nucleotide position 3949 of SEQ ID NO:13, or the complements thereof; and

15 b) selecting a clinical course of therapy for treatment of a subject who is at risk for developing a vascular disease or disorder based on the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, nucleotide position 10777 of SEQ ID NO:7, nucleotide position 76666 of SEQ ID NO:9, nucleotide position 55386 of SEQ ID NO:3, nucleotide position 53502 of SEQ ID NO:11, and nucleotide position 3949 of SEQ ID NO:13, or the complements thereof.

20 20. The method of claim 19, wherein determining the identity of said nucleotides is by obtaining a nucleic acid sample from the subject.

21. The method of claim 17 or 19, wherein the clinical course of therapy comprises use of a medical device for treating a vascular disease or disorder.

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22. The method of claim 21, wherein said medical device is selected from the group consisting of: a defibrillator, a stent, a device used in coronary revascularization, a pacemaker, and any combination thereof.

23. The method of claim 21, wherein said medical device is used in combination with a modulator of modulators of ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 gene expression or ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 polypeptide activity.

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24. The method of claim 21, wherein said clinical course of therapy is use of a surgical procedure.

25. The method of claim 24, wherein said surgical procedure is selected from the group consisting of: percutaneous transluminal coronary angioplasty, laser angioplasty, implantation of a stent, coronary bypass grafting, implantation of a defibrillator, implantation of a pacemaker, and any combination thereof.

26. A method for determining whether a subject will benefit from implantation of a stent comprising the steps of:

a) determining the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, the nucleotide present at nucleotide position 55386 of SEQ ID NO:3, the nucleotide present at nucleotide position 75672 of SEQ ID NO:5, and the nucleotide present at nucleotide position 3949 of SEQ ID NO:13, or the complements thereof; and

b) determining whether a subject will benefit from implantation of a stent based on the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, the nucleotide present at nucleotide position 55386 of SEQ ID NO:3, the nucleotide present at nucleotide position 75672 of SEQ ID NO:5, and the nucleotide present at nucleotide position 3949 of SEQ ID NO:13, or the complements thereof.

27. The method of claim 26, wherein determining the identity of said nucleotides is by obtaining a nucleic acid sample from the subject.







35. A method for determining whether a subject will benefit from a surgical procedure comprising the steps of:

- a) determining the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, the nucleotide present at nucleotide position 55386 of SEQ ID NO:3, the nucleotide present at nucleotide position 75672 of SEQ ID NO:5, and the nucleotide present at nucleotide position 3949 of SEQ ID NO:13, or the complements thereof; and
- b) determining whether a subject will benefit from a surgical procedure based on the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, the nucleotide present at nucleotide position 55386 of SEQ ID NO:3, the nucleotide present at nucleotide position 75672 of SEQ ID NO:5, and the nucleotide present at nucleotide position 3949 of SEQ ID NO:13, or the complements thereof.

36. The method of claim 35, wherein determining the identity of said nucleotides is by obtaining a nucleic acid sample from the subject.

37. A method for determining whether a subject will benefit from a surgical procedure comprising the steps of:

- a) determining the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, nucleotide position 10777 of SEQ ID NO:7, nucleotide position 76666 of SEQ ID NO:9, nucleotide position 55386 of SEQ ID NO:3, nucleotide position 53502 of SEQ ID NO:11, and nucleotide position 3949 of SEQ ID NO:13, or the complements thereof; and
- b) determining whether a subject will benefit from a surgical procedure based on the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, nucleotide position 10777 of SEQ ID NO:7, nucleotide position 76666 of SEQ ID NO:9, nucleotide position 55386 of SEQ ID NO:3, nucleotide position 53502 of SEQ ID NO:11, and nucleotide position 3949 of SEQ ID NO:13, or the

complements thereof.

38. The method of claim 37, wherein determining the identity of said nucleotides is by obtaining a nucleic acid sample from the subject.

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39. The method of claim 35 or 37, wherein said surgical procedure is selected from the group consisting of percutaneous transluminal coronary angioplasty, laser angioplasty, implantation of a stent, coronary bypass grafting, implantation of a defibrillator, implantation of a pacemaker, and any combination thereof.

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40. A method for selecting an effective vascular imaging device as a diagnostic tool in a subject comprising the steps of:

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a) determining the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, the nucleotide present at nucleotide position 55386 of SEQ ID NO:3, the nucleotide present at nucleotide position 75672 of SEQ ID NO:5, and the nucleotide present at nucleotide position 3949 of SEQ ID NO:13, or the complements thereof; and

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b) selecting an effective vascular imaging device as a diagnostic tool for said subject.

41. The method of claim 40, wherein determining the identity of said nucleotides is by obtaining a nucleic acid sample from the subject.

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42. A method for selecting an effective vascular imaging device as a diagnostic tool in a subject comprising the steps of:

a) determining the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, nucleotide position 10777 of SEQ ID NO:7, nucleotide position 76666 of SEQ ID NO:9, nucleotide position 55386 of SEQ ID NO:3, nucleotide position 53502 of SEQ ID NO:11, and nucleotide position 3949 of

SEQ ID NO:13, or the complements thereof; and

b) selecting an effective vascular imaging device as a diagnostic tool for said subject.

5           43.     The method of claim 42, wherein determining the identity of said nucleotides is by obtaining a nucleic acid sample from the subject.

          44.     The method of claim 40 or 42, wherein said vascular imaging device is selected from the group consisting of: angiography, cardiac ultrasound, coronary angiogram,  
10   magnetic resonance imagery, nuclear imaging, CT scan, myocardial perfusion imagery, electrocardiogram, and any combination thereof.

          45.     A computer readable medium for storing instructions for performing a computer implemented method for determining whether or not a subject has a predisposition  
15   to a vascular disease or disorder, said instructions comprising the functionality of:

          obtaining information from the subject indicative of the presence or absence of the polymorphic region of a ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or a THBS2 gene, and

          based on the presence or absence of the polymorphic region of a ITGB3, VWF,  
20   EDNRB, F2, SELP, THBS1, and/or a THBS2 gene, determining whether or not the subject has a predisposition to a vascular disease or disorder.

          46.     A computer readable medium for storing instructions for performing a computer implemented method for identifying a predisposition to a vascular disease or  
25   disorder, said instructions comprising the functionality of:

          obtaining information regarding the presence or absence of the polymorphic region of a ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or a THBS2 gene, and

          based on the presence or absence of the polymorphic region of a ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or a THBS2 gene, identifying a predisposition to a vascular

disease or disorder.

47. An electronic system comprising a processor for determining whether or not a subject has a predisposition to a vascular disease or disorder, said processor implementing  
5 the functionality of:

obtaining information from the subject indicative of the presence or absence of the polymorphic region of a ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or a THBS2 gene, and

based on the presence or absence of the polymorphic region of a ITGB3, VWF,  
10 EDNRB, F2, SELP, THBS1, and/or a THBS2 gene, determining whether or not the subject has the predisposition to a vascular disease or disorder.

48. An electronic system comprising a processor for performing a method for identifying a predisposition to a vascular disease or disorder in a subject, said processor  
15 implementing the functionality of:

obtaining information from the subject indicative of the presence or absence of the polymorphic region of a ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or a THBS2 gene, and

based on the presence or absence of the polymorphic region of a ITGB3, VWF,  
20 EDNRB, F2, SELP, THBS1, and/or a THBS2 gene, performing a method for identifying a predisposition to a vascular disease or disorder associated with the polymorphic region.

49. The electronic system of claims 47 or 48, wherein said processor further implements the functionality of receiving phenotypic information associated with the subject.  
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50. The electronic system of claims 47 or 48, wherein said processor further implements the functionality of acquiring from a network phenotypic information associated with the subject.

51. A network system for identifying a predisposition to a vascular disease or disorder in response to information submitted by an individual, said system comprising means for:

receiving data from the individual regarding the presence or absence of the  
5 polymorphic region of a ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or a THBS2 gene,  
and

based on the presence or absence of the polymorphic region, determining whether or not the subject has the predisposition to the vascular disease or disorder associated with the polymorphic region.

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52. A network system for identifying whether or not a subject has a predisposition to a vascular disease or disorder, said system comprising means for:

receiving information from the subject regarding the polymorphic region of a  
ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or a THBS2 gene,

15 receiving phenotypic information associated with the subject,  
acquiring additional information from the network, and

based on one or more of the phenotypic information, the polymorphic region, and the acquired information, determining whether or not the subject has a pre-disposition to a vascular disease or disorder associated with a polymorphic region of a ITGB3, VWF,  
20 EDNRB, F2, SELP, THBS1, and/or a THBS2 gene.

53. The system of claims 51 or 52, wherein the network system comprises a server and a work station operatively connected to said server via the network.

25 54. A method for determining whether a subject has a pre-disposition to a vascular disease or disorder associated with a polymorphic region of a ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or a THBS2 gene, said method comprising the steps of:  
receiving information associated with the polymorphic region of a ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or a THBS2 gene,

receiving phenotypic information associated with the subject,  
acquiring information from the network corresponding to a ITGB3, VWF, EDNRB,  
F2, SELP, THBS1, and/or a THBS2 gene, and

based on one or more of the phenotypic information, the polymorphic region, and the  
5 acquired information, determining whether the subject has a pre-disposition to a vascular  
disease or disorder associated with a polymorphic region of a ITGB3, VWF, EDNRB, F2,  
SELP, THBS1, and/or a THBS2 gene.

55. A method for diagnosing or aiding in the diagnosis of a vascular disease or  
10 disorder in a subject comprising the steps of determining the ITGB3, VWF, EDNRB, F2,  
SELP, THBS1, and THBS2 genetic profile of the subject, thereby diagnosing or aiding in the  
diagnosis of a vascular disease or disorder.

56. The method of claim 55, wherein determining the subject's ITGB3, VWF,  
15 EDNRB, F2, SELP, THBS1, and THBS2 genetic profile comprises determining the identity  
of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, the nucleotide  
present at nucleotide position 55386 of SEQ ID NO:3, the nucleotide present at nucleotide  
position 75672 of SEQ ID NO:5, and the nucleotide present at nucleotide position 3949 of  
SEQ ID NO:13, or the complements thereof.

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57. The method of claim 55, wherein determining the subject's ITGB3, VWF,  
EDNRB, F2, SELP, THBS1, and THBS2 genetic profile comprises determining the identity  
of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, nucleotide position  
10777 of SEQ ID NO:7, nucleotide position 76666 of SEQ ID NO:9, nucleotide position  
25 55386 of SEQ ID NO:3, nucleotide position 53502 of SEQ ID NO:11, and nucleotide  
position 3949 of SEQ ID NO:13, or the complements thereof.

58. The method of claim 55, further comprising utilizing a vascular imaging  
device to diagnose or aid in the diagnosis of a vascular disease or disorder.



NO:20, or SEQ ID NO:21, or the complements thereof.

65. A method of diagnosing or aiding in the diagnosis of a vascular disease in a subject comprising the steps of determining the identity of the nucleotide at nucleotide position 107078 of SEQ ID NO:1, the nucleotide present at nucleotide position 55386 of SEQ ID NO:3, the nucleotide present at nucleotide position 75672 of SEQ ID NO:5, and the nucleotide present at nucleotide position 3949 of SEQ ID NO:13, or the complements thereof,

wherein the presence two copies of an adenine allele at residue 107078 of the ITGB3 gene, two copies of a thymidine allele at residue 55386 of the VWF gene, one copy of a thymidine allele and one copy of a cytidine allele, at residue 75672 of the EDNRB gene, and one copy of a guanine allele and one copy of a thymidine allele at residue 3949 of the THBS2 gene, or the complements thereof, is indicative of increased likelihood of a vascular disease in the subject as compared with a subject having any other combination of alleles at these loci.

66. The method of claim 65, wherein determining the identity of said nucleotides is by obtaining a nucleic acid sample from the subject.

67. A method of diagnosing or aiding in the diagnosis of a vascular disease in a subject comprising the steps of determining the identity of the nucleotide present at nucleotide position 107078 of SEQ ID NO:1, nucleotide position 10777 of SEQ ID NO:7, nucleotide position 76666 of SEQ ID NO:9, nucleotide position 55386 of SEQ ID NO:3, nucleotide position 53502 of SEQ ID NO:11, and nucleotide position 3949 of SEQ ID NO:13, or the complements thereof,

wherein the presence of two copies of an adenine allele at nucleotide residue 107078 of the ITGB3 gene, two copies of a cytidine allele at nucleotide residue 10777 of the F2 gene, two copies of an adenine allele at nucleotide residue 76666 of the SELP gene, two copies of a thymidine allele at nucleotide residue 55386 of the VWF gene, two copies of a



thymidine allele at nucleotide residue 53502 of the THBS1 gene, and one copy of a guanine allele and one copy of a thymidine allele at nucleotide residue 3949 of the THBS2 gene, or the complements thereof, is indicative of increased likelihood of a vascular discase in the subject as compared with a subject having any other combination of alleles at these loci.

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68. The method of claim 67, wherein determining the identity of said nucleotides is by obtaining a nucleic acid sample from the subject.

69. The method of claims 65 or 67, wherein the vascular disease is selected from  
10 the group consisting of atherosclerosis, coronary artery disease, myocardial infarction, ischemia, stroke, peripheral vascular diseases, venous thromboembolism and pulmonary embolism.

70. The method of claim 69, wherein the vascular disease is myocardial  
15 infarction.

71. The method of claim 69, wherein the vascular disease is coronary artery disease.

20 72. A method for predicting the likelihood that a subject will have a vascular disease, comprising the steps of determining the nucleotide at nucleotide position 107078 of SEQ ID NO:1, the nucleotide present at nucleotide position 55386 of SEQ ID NO:3, the nucleotide present at nucleotide position 75672 of SEQ ID NO:5, and the nucleotide present at nucleotide position 3949 of SEQ ID NO:13, or the complements thereof,

25 wherein the presence two copies of an adenine allele at residue 107078 of the ITGB3 gene, two copies of a thymidine allele at residue 55386 of the VWF gene, one copy of a thymidine allele and one copy of a cytidine allele at residue 75672 of the EDNRB gene, and one copy of a guanine variant allele and one copy of a thymidine allele at residue 3949 of the THBS2 gene, or the complements thereof, is indicative of increased likelihood of a vascular

disease in the subject as compared with a subject having any other combination of alleles at these loci.

73. The method of claim 72, wherein determining the identity of said nucleotides  
5 is by obtaining a nucleic acid sample from the subject.

74. A method for predicting the likelihood that a subject will have a vascular  
disease, comprising the steps of determining the identity of the nucleotide present at  
nucleotide position 107078 of SEQ ID NO:1, nucleotide position 10777 of SEQ ID NO:7,  
10 nucleotide position 76666 of SEQ ID NO:9, nucleotide position 55386 of SEQ ID NO:3,  
nucleotide position 53502 of SEQ ID NO:11, and nucleotide position 3949 of SEQ ID  
NO:13, or the complements thereof,

wherein the presence of two copies of an adenine allele at nucleotide residue 107078  
of the ITGB3 gene, two copies of a cytidine allele at nucleotide residue 10777 of the F2  
15 gene, two copies of an adenine allele at nucleotide residue 76666 of the SELP gene, two  
copies of a thymidine allele at nucleotide residue 55386 of the VWF gene, two copies of a  
thymidine allele at nucleotide residue 53502 of the THBS1 gene, and one copy of a guanine  
allele and one copy of a thymidine allele at nucleotide residue 3949 of the THBS2 gene, or  
the complements thereof, is indicative of increased likelihood of a vascular disease in the  
20 subject as compared with a subject having any other combination of these alleles.

75. The method of claim 74, wherein determining the identity of said nucleotides  
is by obtaining a nucleic acid sample from the subject.

25 76. The method of claim 72 or 74, wherein the vascular disease is selected from  
the group consisting of atherosclerosis, coronary artery disease, myocardial infarction,  
ischemia, stroke, peripheral vascular diseases, venous thromboembolism and pulmonary  
embolism.

77. The method of claim 76, wherein the vascular disease is myocardial infarction.

78. The method of claim 76, wherein the vascular disease is coronary artery  
5 disease.

79. A composition comprising an isolated nucleic acid molecule comprising an allelic variant of a polymorphic region of a ITGB3 gene, wherein the allelic variant differs from the reference sequence set forth in SEQ ID NO:1, or a portion thereof, in combination  
10 with an isolated nucleic acid molecule comprising an allelic variant of a polymorphic region of a VWF gene, wherein the allelic variant differs from the reference sequence set forth in SEQ ID NO:3, or a portion thereof, in combination with an isolated nucleic acid molecule comprising an allelic variant of a polymorphic region of a EDNRB gene, wherein the allelic variant differs from the reference sequence set forth in SEQ ID NO:5, or a portion thereof, in  
15 combination with an isolated nucleic acid molecule comprising an allelic variant of a polymorphic region of a THBS gene, wherein the allelic variant differs from the reference sequence set forth in SEQ ID NO:13, or a portion thereof.

80. A composition comprising an isolated nucleic acid molecule comprising an allelic variant of a polymorphic region of a ITGB3 gene, wherein the allelic variant differs from the reference sequence set forth in SEQ ID NO:1, or a portion thereof, in combination with an isolated nucleic acid molecule comprising an allelic variant of a polymorphic region of an F2 gene, wherein the allelic variant differs from the reference sequence set forth in SEQ ID NO:7, or a portion thereof, in combination with an isolated nucleic acid molecule  
25 comprising an allelic variant of a polymorphic region of a SELP gene, wherein the allelic variant differs from the reference sequence set forth in SEQ ID NO:9, or a portion thereof, in combination with an isolated nucleic acid molecule comprising an allelic variant of a polymorphic region of a VWF gene, wherein the allelic variant differs from the reference sequence set forth in SEQ ID NO:3, or a portion thereof, in combination with an isolated

nucleic acid molecule comprising an allelic variant of a polymorphic region of a THBS1 gene, wherein the allelic variant differs from the reference sequence set forth in SEQ ID NO:11, or a portion thereof, in combination with an isolated nucleic acid molecule comprising an allelic variant of a polymorphic region of a THBS2 gene, wherein the allelic variant differs from the reference sequence set forth in SEQ ID NO:13, or a portion thereof

81. A kit comprising probes or primers which are capable of hybridizing to the nucleic acid molecule of claim 79 or 80.

82. The kit of claim 81, wherein the probes or primers comprise a nucleotide sequence from about 15 to about 30 nucleotides.

83. The kit of claim 81, wherein the probes or primers are labeled.

84. A method for determining the identity of one or more allelic variants of a polymorphic region of a ITGB3, VWF, EDNRB, F2, SELP, THBS1, and THBS2 gene in a nucleic acid obtained from a subject, comprising contacting a sample nucleic acid from the subject with probes or primers having sequences which are complementary to a ITGB3, VWF, EDNRB, F2, SELP, THBS1, and THBS2, wherein the sample comprises a ITGB3, VWF, EDNRB, F2, SELP, THBS1, and THBS2 gene sequence, thereby determining the identity of one or more of the allelic variants.

85. The method of claim 84, wherein the probes or primers are capable of hybridizing to an allelic variant of a polymorphic region, and wherein the allelic variant differs from the reference sequence set forth in SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, and SEQ ID NO:13.

86. The method of claim 84, wherein determining the identity of the allelic variant comprises determining the identity of at least one nucleotide of the polymorphic

region of a ITGB3 gene, a VWF gene, a EDNRB gene, a F2 gene, a SELP gene, a THBS1 gene, and a THBS2 gene.

5           87.     The method of claim 84, wherein determining the identity of the allelic variant consists of determining the nucleotide content of the polymorphic region.

          88.     The method of claim 84, wherein determining the nucleotide content comprises sequencing the nucleotide sequence.

10          89.     The method of claim 84, wherein determining the identity of the allelic variant comprises performing a restriction enzyme site analysis.

          90.     The method of claim 84, wherein determining the identity of the allelic variant is carried out by single-stranded conformation polymorphism.  
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          91.     The method of claim 84, wherein determining the identity of the allelic variant is carried out by allele specific hybridization.

          92.     The method of claim 84, wherein determining the identity of the allelic variant is carried out by primer specific extension.  
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          93.     The method of claim 84, wherein determining the identity of the allelic variant is carried out by an oligonucleotide ligation assay.

25          94.     The method of claim 84, wherein the probe or primer comprises a nucleotide sequence from about 15 to about 30 nucleotides.

          95.     An Internet-based method for assessing a subject's risk for vascular disease, the method comprising:

a) analyzing biological information from a subject indicative of the presence or absence of a polymorphic region of ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2;

5 b) providing results of the analysis to the subject via the Internet, wherein the presence of a polymorphic region of ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 indicates an increased risk for vascular disease.

96. A method of assessing a subject's risk for vascular disease, the method comprising:

- 10 a) obtaining biological information from the individual;
- b) analyzing the information to obtain the subject's ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 genetic profile;
- c) representing the ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 genetic profile information as digital genetic profile data;
- 15 d) electronically processing the ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 digital genetic profile data to generate a risk assessment report for vascular disease, wherein the presence of a polymorphic region of ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 indicates an increased risk for vascular disease; and
- e) displaying the risk assessment report on an output device.

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97. A method of assessing a subject's risk for vascular disease, the method comprising:

- a) obtaining the subject's ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 genetic profile information as digital genetic profile data;
- 25 b) electronically processing the ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 digital genetic profile data to generate a risk assessment report for vascular disease, wherein the presence of a polymorphic region of ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 indicates an increased risk for vascular disease; and
- c) displaying the risk assessment report on an output device.

98. The method of claims 96 or 97, further comprising the step of using the risk assessment report to provide medical advice.

5 99. The method of claims 96 or 97, wherein additional health information is provided.

100. The method of claim 99, wherein the additional health information comprises information regarding one or more of age, sex, ethnic origin, diet, sibling health, parental  
10 health, clinical symptoms, personal health history, blood test data, weight, and alcohol use, drug use, nicotine use, and blood pressure.

101. The method of claim 97, wherein the ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 digital genetic profile data are transmitted via a communications  
15 network to a medical information system for processing.

102. The method of claim 101, wherein the communications network is the Internet.

20 103. A medical information system for assessing a subject's risk for vascular disease comprising:

- a) means for obtaining biological information from the individual to obtain a ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 genetic profile;
- b) means for representing the ITGB3, VWF, EDNRB, F2, SELP,  
25 THBS1, and/or THBS2 genetic profile as digital molecular data;
- c) means for electronically processing the ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 digital genetic profile to generate a risk assessment report for vascular disease; and
- d) means for displaying the risk assessment report on an output device,

wherein the presence of a polymorphic region of ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 indicates an increased risk for vascular disease.

104. A medical information system for assessing a subject's risk for vascular  
5 disease comprising:

- a) means for representing the subject's ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 genetic profile data as digital molecular data;
- b) means for electronically processing the ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 digital genetic profile to generate a risk assessment  
10 report for vascular disease; and
- c) means for displaying the risk assessment report on an output device, wherein the presence of a polymorphic region of ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 indicates an increased risk for vascular disease.

15 105. A computerized method of providing medical advice to a subject comprising:

- a) analyzing biological information from a subject to determine the subject's ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 genetic profile;
- b) based on the subject's ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 genetic profile, determining the subject's risk for vascular disease;
- 20 c) based on the subject's risk for vascular disease, electronically providing medical advice to the subject.

106. A computerized method of providing medical advice to a subject comprising:

- a) based on the subject's ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 genetic profile, determining the subject's risk for vascular disease;
- 25 b) based on the subject's risk for vascular disease, electronically providing medical advice to the subject.

107. The method of any of claims 105 or 106, wherein the medical advice



comprises one or more of the group consisting of further diagnostic evaluation, administration of medication, or lifestyle change.

108. The method of claims 105 or 106, wherein additional health information is  
5 obtained from the subject.

109. The method of claim 108, wherein the additional health information comprises information regarding one or more of age, sex, ethnic origin, diet, sibling health, parental health, clinical symptoms, personal health history, blood test data, weight, and  
10 alcohol use, drug use, nicotine use, and blood pressure.

110. A method for self-assessing risk for a vascular disease comprising  
a) providing biological information for genetic analysis;  
b) accessing an electronic output device displaying results of the genetic  
15 analysis, thereby self-assessing risk for a vascular disease, wherein the presence of a polymorphic region of ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 indicates an increased risk for vascular disease.

111. A method for self-assessing risk for a vascular disease comprising accessing  
20 an electronic output device displaying results of a genetic analysis of a biological sample, wherein the presence of a polymorphic region of ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 indicates an increased risk for vascular disease, thereby self-assessing risk for a vascular disease.

112. A method of self-assessing risk for vascular disease, the method comprising  
a) providing biological information;  
b) accessing ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2  
25 digital genetic profile data obtained from the biological information, the ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 digital genetic profile data being

displayed via an output device, wherein the presence of a polymorphic region of ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 indicates an increased risk for vascular disease.

5           113. A method of self-assessing risk for vascular disease, the method comprising accessing ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 digital genetic profile data obtained from biological information, the ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 digital genetic profile data being displayed via an output device, wherein the presence of a polymorphic region of ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or  
10 THBS2 indicates an increased risk for vascular disease.

114. The method of claims 112 or 113, wherein the electronic output device is accessed via the Internet.

15           115. The method of claims 112 or 113, wherein additional health information is provided.

116. The method of claim 115, wherein the additional health information comprises information regarding one or more of age, sex, ethnic origin, diet, sibling health,  
20 parental health, clinical symptoms, personal health history, blood test data, weight, and alcohol use, drug use, nicotine use, and blood pressure.

117. The method of any of claims 110, 111, 112, or 113, wherein the biological information is obtained from a sample from an individual at a laboratory company.

25

118. The method of claim 117, wherein the laboratory company processes the biological sample to obtain ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 genetic profile data, represents at least some of the ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 genetic profile data as digital genetic profile data, and transmits the

ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 digital genetic profile data via a communications network to a medical information system for processing.

119. The method of any of claims 110, 111, 112, or 113, wherein the biological  
5 information is obtained from a sample from an individual at a draw station, wherein the draw station processes the biological sample to obtain ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 genetic profile data, and transfers the data to a laboratory company.

120. The method of claim 119, wherein the laboratory company represents at least  
10 some of the ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 genetic profile data as digital genetic profile data, and transmits the ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2 digital genetic profile data via a communications network to a medical information system for processing.

121. A method for a health care provider to generate a personal health assessment  
15 report for an individual, the method comprising counseling the individual to provide a biological sample; authorizing a draw station to take a biological sample from the individual and transmit molecular information from the sample to a laboratory company, wherein the molecular information comprises the presence or absence of a polymorphic region of ITGB3,  
20 VWF, EDNRB, F2, SELP, THBS1, and/or THBS2; requesting the laboratory company to provide digital molecular data corresponding to the molecular information to a medical information system to electronically process the digital molecular data and digital health data obtained from the individual to generate a health assessment report; receiving the health assessment report from the medical information system; and providing the health assessment  
25 report to the individual.

122. A method for a health care provider to generate a personal health assessment report for an individual, the method comprising requesting a laboratory company to provide digital molecular data corresponding to the molecular information derived from a biological

sample from the individual to a medical information system to electronically process the digital molecular data and digital health data obtained to generate a health assessment report; receiving the health assessment report from the medical information system; and providing the health assessment report to the individual.

5

123. A method of assessing the health of an individual, the method comprising: obtaining health information from the individual using an input device; representing at least some of the health information as digital health data; obtaining biological information from the individual, wherein the information comprises the presence or absence of a polymorphic region of ITGB3, VWF, EDNRB, F2, SELP, THBS1, and/or THBS2; representing at least  
10 some of the information as digital molecular data; electronically processing the digital molecular data and digital health data to generate a health assessment report; and displaying the health assessment report on an output device.

15

124. The method of claim 123, wherein electronically processing the digital molecular data and digital health data to generate a health assessment report comprises using the digital molecular data and digital health data as inputs for an algorithm or a rule-based system that determines whether the individual is at risk for a specific disorder.

20

125. The method of claim 123, wherein the individual has or is at risk of developing vascular disease, and wherein electronically processing the digital molecular data and digital health data to generate a health assessment report comprises using the digital molecular data and digital health data as inputs for an algorithm or a rule-based system that determines the individual's prognosis.

25

126. The method of claim 123, wherein electronically processing the digital molecular data and digital health data comprises using the digital molecular data and digital health data as inputs for an algorithm or a rule-based system based on one or more databases comprising stored digital molecular data and/or digital health data relating to one or more

disorders.

127. The method of claim 123, wherein electronically processing the digital molecular data and digital health data comprises using the digital molecular data and digital health data as inputs for an algorithm or a rule-based system based on one or more databases comprising (i) stored digital molecular data and/or digital health data from a plurality of healthy individuals, and (ii) stored digital molecular data and/or digital health data from one or more pluralities of unhealthy individuals, each plurality of individuals having a specific disorder.

128. The method of either of claims 126 or 127, wherein at least one of the databases is a public database.

129. The method of claim 123, wherein the digital health data and digital molecular data are transmitted via a communications network to a medical information system for processing.

130. The method of claim 129, wherein the communications network is the Internet.

131. The method of claim 129, wherein the input device is a keyboard, touch screen, hand-held device, telephone, wireless input device, or interactive page on a website.

132. The method of claim 123, wherein the health assessment report comprises a digital molecular profile of the individual.

133. The method of claim 123, wherein the health assessment report comprises a digital health profile of the individual.

134. The method of claim 123, wherein the molecular data comprises nucleic acid sequence data, and the molecular profile comprises a genetic profile.

5 135. The method of claim 123, wherein the molecular data comprises protein sequence data, and the molecular profile comprises a proteomic profile.

136. The method of claim 123, wherein the molecular data comprises information regarding one or more of the absence, presence, or level, of one or more specific proteins, polypeptides, chemicals, cells, organisms, or compounds in the individual's biological  
10 sample.

137. The method of claim 123, wherein the health information comprises information relating to one or more of age, sex, ethnic origin, diet, sibling health, parental health, clinical symptoms, personal health history, blood test data, weight, and alcohol use,  
15 drug use, nicotine use, and blood pressure.

138. The method of claim 123, wherein the health information comprises current and historical health information.

20 139. The method of claim 123, further comprising obtaining a second set of biological information at a time after obtaining the first set of biological information; processing the second set of biological information to obtain a second set of information; representing at least some of the second set of information as digital second molecular data; and processing the molecular data and second molecular data to generate a health assessment  
25 report.

140. The method of claim 139, further comprising obtaining second health information at a time after obtaining the health information; representing at least some of the second health information as digital second health data and processing the molecular data,

health data, second molecular data, and second health data to generate a health assessment report.

141. The method of claim 123, wherein the health assessment report provides  
5 information about the individual's predisposition for vascular disease and options for risk reduction.

142. The method of claim 141, wherein the options for risk reduction comprise one  
or more of diet, exercise, one or more vitamins, one or more drugs, cessation of nicotine use,  
10 and cessation of alcohol use.

143. The method of claim 123, wherein the health assessment report provides  
information about treatment options for a particular disorder.

144. The method of claim 143, wherein the treatment options comprise one or  
15 more of diet, one or more drugs, physical therapy, and surgery.

145. The method of claim 123, wherein the health assessment report provides  
information about the efficacy of a particular treatment regimen and options for therapy  
20 adjustment.

146. The method of claim 123, further comprising storing the molecular data.

147. The method of claim 146, further comprising building a database of stored  
25 molecular data from a plurality of individuals.

148. The method of claim 123, further comprising storing the molecular data and  
health data.

149. The method of claim 148, further comprising building a database of stored molecular data and health data from a plurality of individuals.

5 150. The method of claim 148, further comprising building a database of stored digital molecular data and/or digital health data from a plurality of healthy individuals, and stored digital molecular data and/or digital health data from one or more pluralities of unhealthy individuals, each plurality of individuals having a specific disorder.